ERIC Document Resume	See Instruction Sheet	DATE OF RESUME 6/2/65	DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.	DO NOT WRITE IN SPACE BELOW
ED000658	8102		

4. AUTHOR(S):
Weitz, Henry, Colver, Robert M., and Southern, J. Albert

5. TITLE OF DOCUMENT ABSTRACTED
Evaluating A Measurement Project

6. PUBLICATION TITLE:
The Personnel and Guidance Journal

7. EDITOR(S):
N.A.

8. PLACE OF ORIGIN
ORG.
ST.
CITY, STATE: Duke Univ. Durham, N.C.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
Duke University

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
33	400-403	Mar. 55	4

MICROFILM COPY AVAILABLE YES ☒ NO ☐

COPYRIGHT GRANTED YES ☒ NO ☐

COPYRIGHT RELEASE FILED YES ☐ NO ☐

TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR
Experimental study

16. INDEXING TERMS (6-12)

measurement	language arts	experimental studies		
higher education	test construction			
students	evaluation			

17. ABSTRACT (MAX. 250 WORDS)

Three procedures based on the use of student data already available at Duke University were studied as a means of identifying students who should be exempt from the Junior English Examination. The study was undertaken to find ways to reduce testing costs and increase morale since the annual procedure of requiring 500–600 students to take the examination in order to identify 35 to 50 failures had proved costly and had a deleterious effect on student morale. The authors called attention to the fact that the actual study and the application of results to the specific situation are illustrative of ways in which test technicians can apply their skills in evaluating measurement projects.

ERIC No.

18. SOURCE OF ABSTRACT
Reporter No. 6

C. FUNDING DATA

19. SUPPORTING ORGANIZATION

20. DIVISION OR DEPT.

21. CONTRACT NO.

PROJECT NO.

22. TOTAL COST OF PROJECT

23. DURATION OF PROJECT

U.S. Department of Health, Education, and Welfare
Office of Education

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

Reprinted from *The Personnel and Guidance Journal* for March, 1955. (Copyright 1955)
Published by the American Personnel and Guidance Association, Inc., 1534 O St., N.W., Washington 5, D. C.

8102

Evaluating a Measurement Project

by HENRY WEITZ, ROBERT M. COLVER, and J. ALBERT SOUTHERN

THE EVALUATION of the effectiveness of any testing program must involve not only the precision of measurement, but also the cost of the project and its influence upon the morale of the examinees. In a school situation, any testing program which provides approximately the same precision of measurement at a reduced cost and with an improvement in student morale is to be preferred to a program which is more expensive and which requires the examination of a larger number of students who find the testing experience distasteful. In many instances, schools and colleges initiate testing programs to secure information which is already available to them either in whole or in part.

An example of this kind of testing is to be found in the English tests administered in many colleges toward the middle or end of the student's program in order to insure that all students planning to graduate will have an adequate competence in using their mother tongue. Duke University along with other liberal arts colleges has had such a program for a number of years.

The Junior English Testing Program at Duke is administered to all students in the Liberal Arts colleges at the beginning of their junior year. The tests used include the "Mechanics of Expression" and the "Effectiveness of Expression" parts of the *Cooperative English Test* and an impromptu theme. Students whose scores on these devices fall below a critical point are required to enroll in remedial English composition courses. Annually five to six hundred students are required to take these tests in order to identify the thirty-five to fifty "failures." Not only is this an expensive procedure, but it also has a deleterious effect on student morale. Many students, especially English majors and others who do very well in English courses, view the procedure as another piece of administrative nonsense.

In view of the cost and the morale factor, it was felt that other means could be devised to identify the failures with approximately the same precision, but at a lower cost and with a reduced demoralizing influence. It was hypothesized that there were simple, inexpensive means available by which students with adequate mastery of English composition could be identified without further testing.

If a large number of such students could be identified (and it was estimated that at least half the junior class fell into this category) it would be unnecessary to test them with the Junior English Examination. This would be more economical for the University and would improve the morale of the students who could be excused from the Examination.

Several possible means of identifying the well-trained student of English were considered and two seemed most promising. One involved the student's performance in English 1 and 2 (the Freshman English courses required of all students). The other involved the use of the scores obtained on the Placement Test in English

They wished to eliminate a costly testing program

HENRY WEITZ is Director of the Guidance and Testing Bureau, Duke University, Durham, North Carolina, where ROBERT M. COLVER is Assistant Director, and J. ALBERT SOUTHERN is psychometrist.

ED000658

administered at the time the student entered Duke as a freshman.[1]

A study was made of the 614 Duke University juniors[2] who took the Junior English Examination in October, 1953. This group took the tests under the usual regulations and administrative procedures. After the testing was completed and the failures identified and remanded to remedial English, a study was made to determine what would have happened if other means of selecting the failures had been used.

Freshman English Performance

In order to study the relationship between Freshman English performance and the pass-fail status on the Junior English Examination, a simple conversion of course letter-grades into numerical equivalents was made as follows: A = 3, B = 2, C = 1, D = 0, and F = −1. These numerical equivalents for English 1 and English 2 were then added to give a Total Freshman English Grade. Thus a student receiving A's in both English 1 and 2 would have a Total English Grade of 6 and a student receiving an A and a D would have a Total English Grade of 3. Students who repeated a course were assigned the numerical equivalent of the higher grade received. This procedure was followed for the 528 students who completed *both* English 1 and 2 *at Duke.*

TABLE 1 shows the Total English Grade earned by the 528 students. It further shows the Junior English Examination pass-fail status of students who took both English 1 and 2 at Duke in each grade category and in each of the special classifications such as transfer students, those who completed only English 1, and those who completed only English 2. (This last category is composed of students who had high enough Placement Test scores to have English 1 waived.)

This table reveals that no student with a Total English Grade of 3 or more failed

TABLE 1

Junior English Examination—Pass-Fail Status by Grade Category and Special Classification

Total Freshman English Grade	*Number of Students*			*% of Group Who Failed*
	Total	*Passed Exam*	*Failed Exam*	
6	7	7	0	0.0
5	26	26	0	0.0
4	105	105	0	0.0
3	104	104	0	0.0
2	200	183	17	8.5
1	60	52	8	13.3
0	24	16	8	33.3
−1	2	1	1	50.0
Total Regular Freshmen	528	494	34	6.4
Engl. 2 Only	35	35	0	0.0
Engl. 1 Only	4	4	0	0.0
Transfers	47	43	4	8.5
GRAND TOTAL	614	576	38	6.2

the Junior English Examination. Nor did any of the 35 students fail whose English 1 requirement was waived. Thus a total of 277 students or over 45 per cent of the class were required to take the examination without producing a single failure. This suggests that it would be possible to examine only those students who received a Total English Grade of two or less and whose English 1 requirement had not been waived and still identify all failing students.

In order to test the validity of this conclusion, an examination was made of the English 1 and 2 performance of the 142 students who had failed the Junior English Examination during the four-year period 1950–1953. In this four-year period 2,802 students were tested to identify these 142 failures. If all students with Total Freshman English Grades of three or better plus all students whose English 1 requirement had been waived had been excused from the Junior English Examination during this four-year period, four students who actually failed (or slightly under three per cent of the failures) would not have been identified. Assuming, as in the case of the 1953 Juniors, that about 45 per cent of each class either

[1] This Placement English Test is another form of the *Cooperative English Test: Mechanics of Expression.*

[2] Although 615 students actually took the tests, complete records were available on only 614.

earn a Total Freshman English Grade of three or more or are exempt from English 1, we find that in the four-year period about 1,260 students were tested to identify these four failures.[3] This seems to be an expensive procedure in both money and student morale.

Placement Test Performance

A second phase of the study was undertaken to determine the degree to which Placement Test scores could be used to reduce further the number of students tested on the Junior English Examination. In this phase of the study, only those regular students whose Total Freshman English Grade was 2 or below were considered. It was found that an additional 94 students could be exempt from the Junior English Examination with a loss in precision amounting to three failures if a cut-off score at the 38th percentile on the *Mechanics of Expression* placement test were used. Thus, if the regulation requiring the Junior English Examination stated that students who received a Total Freshman English Grade of no less than 3 *or* who received an English Placement Test Score of no less than the 38th percentile would be exempt from the Junior English Examination, slightly over 60 per cent of the class would be excused from the Junior English Examination while only three students who might fail the examination would be unidentified.

Another approach to the same problem was considered. Here a further analysis was made of the grades and scores of those 200 students who received a Total Freshman English Grade of 2. This aspect of the study revealed that if the regulation stipulated that all students earning a Total Freshman English Grade of no less than three, *and* those students who earned an English Grade of 2 *and also* scored no less than the 38th percentile on the English Placement Test would be exempt from the Junior English Examination, 352 students or about 58 per cent of the class could be excused from the Junior English Examination with a loss of only 2 failures unidentified.

It was not possible to validate those two principles on samples of students from other years because comparable test data were not available.

Summary of Procedures

Three procedures for exempting students from the Junior English Examination were considered. These are presented in tabular form in TABLE 2. It will be noted that Procedures II and III produce results which are almost the same.

Financial Factors

It is estimated that it cost the University $386.40 to administer the 615 Junior English Examinations in October, 1953. Some of the elements which make up this cost can be ascertained with precision; others can only be estimated. The elements which are included in the cost estimate are listed in TABLE 3.

On the basis of these cost data, the cost per student to administer the Junior English Examination was estimated to be $0.628. Thus, the cost and savings involved in each of the procedures listed above, assuming a constant unit cost, would be as follows:

Procedure	*Cost*	*Savings*
I	$211.64	$174.76
II	152.60	233.80
III	164.54	221.86
Present	386.40	0.00

Morale and Motivation Factors

While the saving of one-half to two-thirds the cost of a testing program is an important matter in University budgets, it is at least equally important to consider the possible influences of the introduction of one of these procedures upon student morale and motivation.

It is estimated that by excusing about half the students from the Junior English Examination in accordance with procedures

[3] Exact data on the Total Freshman English Grades of students taking the Examination in 1950–1952 were not readily available at the time of this study. The assumption, however, seems reasonable.

TABLE 2

Summary of Junior English Examination—Exemption Requirements*

Procedure	Exemption: Total Freshman English Grade	Exemption: English Placement Test Scores	Requirements or Combination of: English Grade	Requirements or Combination of: Test Score	Total Number Tested	Failures Identified	Failures Not Identified	No. and % of Class Exempt
I	3+	..	..	..	337	38	0	277 (45)
II	3+ or	PR 38+	..	..	243	35	3	371 (60)
III	3+	—or—	2 and	PR 38+	262	36	2	352 (58)

* In all requirements, students whose English 1 requirement was waived because of high Placement Test scores would be excused from the Junior English Examination.

TABLE 3

Estimated Cost of Administering the Junior English Examination, October 1953

Item	Cost
Test Booklets	$ 39.00
Answer Sheets	23.40
Pencils	7.50
Objective Test Scoring	15.00
Theme Scoring	166.50
Examiners and Proctors	97.50
Clerical Staff Time	32.50
Miscellaneous	5.00
TOTAL	$386.40
Cost per student based on 615 examinees	$ 0.628

suggested on the preceding pages, the University would provide a regulation which would appear more meaningful to the students. At the present time, students who have already demonstrated their competency in English composition by having been excused from English 1 or by having received good grades in Freshman English are still required to establish their claim to literacy. This, as has been frequently and strongly expressed by students, borders on being nonsense, and tends to rob students of some of the confidence they may be inclined to place in the administration and instructional staff.

Another factor which might well become effective if any of the suggested procedures were introduced is an increase in motivation on the part of the students to attain higher grades in English 1 and 2. The possibility of being excused from the Junior English Examination might encourage students to learn more English when they are Freshmen. There is, of course, the possibility that once these good students have demonstrated their composition skills in Freshman English, they will become careless in their use of the language since they will not have the Examination before them to motivate them in sophomore composition work. While this may be true, it should be pointed out that even if the suggested procedures are instituted, the lower half of the class will still be required to take the Junior English Examination. Thus, the students who need the motivation of the examination most will still have it.

Conclusion

In an effort to find ways to reduce testing costs and increase student morale, a study was undertaken of the present procedures for measuring competency in English composition at Duke University. Three procedures using data already available were suggested. It is anticipated that some action along these lines will be undertaken by the University.

The actual study and application of results to the specific situation herein described is, of course, of minor consequence. This situation is merely illustrative of the many situations to which test technicians should be applying their skills in evaluating measurement projects.